

AMENDMENTS TO THE CLAIMS

Please add Claims 16-25, as indicated below.

Please amend Claims 5 and 15, as indicated below.

A complete listing of all claims is presented below with insertions underlined (e.g., insertion), and deletions struckthrough or in double brackets (e.g., ~~deletion~~ or [[deletion]]):

- 1.-4. (Cancelled)
5. (Currently Amended) A method for determining at least two types of corrected aspect values for an aspect of a pixel, said pixel being embedded in a configuration of pixels, said method comprising the steps of:

measuring at least one intensity value corresponding to said aspect for essentially each of the pixels of said configuration of pixels;

calculating a first corrected intensity value for said pixel, in the calculation combining the measured intensity values of a set of pixels out of said configuration of pixels;

decomposing the measured intensity value into said first corrected intensity value and a subaspect value;

determining a second corrected intensity value for said pixel by combining said first corrected intensity value with ~~[[the]]~~a corrected subaspect value for said pixel ~~obtained by analysing the measured intensity value in said first corrected intensity value and a subaspect value;~~ and thereafter

determining at least two types of corrected subaspect values for said pixel by combining the subaspect values of a set of pixels out of said configuration of pixels, wherein said aspect is the colour of said pixel and wherein said subaspect is the chrominance of said pixel, wherein the types of corrected values for said colour are Red, Green, and Blue corrected colour values for said pixel and wherein the types of corrected values of said chrominance are the corrected red, green and blue chrominance values, wherein said pixel has a colour filter for filtering substantially one colour type while measuring said intensity value.

6. (Original) The method as recited in claim 5 further comprising the step of determining at least two types of corrected aspect values for said aspect of said pixel by

combining said second corrected intensity value with two types corrected subaspect values for said pixel.

7. (Previously Presented) The method as recited in claim 5, wherein said set of pixels out of said configuration of pixels used for determining a first corrected intensity value for said pixel, and said set of pixels for determining at least two corrected subaspect values for said pixel consist of pixels in the immediate neighbourhood of said pixel.

8. (Previously Presented) The method as recited in claim 5 wherein the corrected subaspect values for said pixel are determined using a vote-operator and/or a median-operator operating on the subaspect values of a set of pixels out of said configuration of pixels.

9. (Previously Presented) The method as recited in claim 8 wherein the corrected subaspect value of one type is calculated with the subaspect values of the same type of said set of pixels.

10. (Original) The method as recited in claim 9 further comprising the steps of:
selecting said set of pixels for determining the corrected subaspect values for said pixel within the immediate neighbourhood of said pixel;
selecting for each type of subaspect values a subset of subaspect values out of the subaspect values of said set, said subset meeting a deviation threshold criterion and the subaspect values being of one type; and
combining and averaging the subaspect values of said subset in order to determine the corrected subaspect values for each type of corrected subaspect values.

11. (Previously Presented) The method as recited in claim 5 wherein the step of determining a first corrected intensity value for said pixel by using the measured intensity values of a set of pixels out of said configuration of pixels, includes a low-pass filter calculation.

12. (Cancelled)

13. (Previously Presented) An electronic system implementing in hardware the method of claim 5.

14. (Original) The system as recited in claim 13 being a silicon chip, said chip integrating a configuration of pixels of an image sensor and a colour filter interpolation technique, each pixel having a colour filter for filtering substantially one colour type, said chip comprising a finite-impulse-response filter having a delay line for storing of the pixels in the

immediate neighbourhood of each pixel of said configuration the measured intensity values corresponding to the colour filters of said pixels.

15. (Currently Amended) A method for determining at least two corrected color values for a color of a selected pixel, the corrected color values corresponding to the Red, Green, and Blue color types, the selected pixel being one pixel of a configuration of pixels, the method comprising the steps of:

measuring at least one intensity value for each pixel of the configuration of pixels, wherein each pixel of said configuration of pixels has a color filter for filtering substantially one color type while measuring the intensity value, each measured intensity value corresponding to the color type of the corresponding pixel;

calculating a first corrected intensity value for each pixel of the configuration of pixels by combining the measured intensity values of a corresponding first set of pixels out of the configuration of pixels;

calculating a chrominance value for each pixel of the configuration of pixels by separating the measured intensity value of each pixel of the configuration of pixels into the first corrected intensity value for the pixel and the chrominance value for the pixel;

determining a second corrected intensity value for the selected pixel by combining the ~~measured~~first corrected intensity value of the selected pixel with ~~[[the]]~~a corrected chrominance value for the selected pixel; and thereafter

determining a first type of corrected chrominance value for the selected pixel by combining the chrominance values of a second set of pixels out of the configuration of pixels and determining a second type of corrected chrominance value for the selected pixel by combining the chrominance values of a third set of pixels out of the configuration of pixels.

16. (New) A method for determining at least two types of corrected aspect values for an aspect of a pixel, said pixel being embedded in a configuration of pixels, said method comprising the steps of:

measuring at least one intensity value corresponding to said aspect for essentially each of the pixels of said configuration of pixels;

calculating a first corrected intensity value for said pixel, in the calculation combining the measured intensity values of a set of pixels out of said configuration of pixels;

decomposing the measured intensity value into said first corrected intensity value and a subaspect value;

determining a second corrected intensity value for said pixel by combining said first corrected intensity value with a corrected subaspect value for said pixel; and thereafter

determining at least two types of corrected subaspect values for said pixel by combining the subaspect values of a set of pixels out of said configuration of pixels, wherein said aspect is the colour of said pixel and wherein said subaspect is the chrominance of said pixel, wherein said pixel has a colour filter for filtering substantially one colour type while measuring said intensity value.

17. (New) The method as recited in claim 16 further comprising the step of determining at least two types of corrected aspect values for said aspect of said pixel by combining said second corrected intensity value with two types corrected subaspect values for said pixel.

18. (New) The method as recited in claim 16, wherein said set of pixels out of said configuration of pixels used for determining a first corrected intensity value for said pixel, and said set of pixels for determining at least two corrected subaspect values for said pixel consist of pixels in the immediate neighbourhood of said pixel.

19. (New) The method as recited in claim 16 wherein the corrected subaspect values for said pixel are determined using a vote-operator and/or a median-operator operating on the subaspect values of a set of pixels out of said configuration of pixels.

20. (New) The method as recited in claim 19 wherein the corrected subaspect value of one type is calculated with the subaspect values of the same type of said set of pixels.

21. (New) The method as recited in claim 21 further comprising the steps of:

selecting said set of pixels for determining the corrected subaspect values for said pixel within the immediate neighbourhood of said pixel;

selecting for each type of subaspect values a subset of subaspect values out of the subaspect values of said set, said subset meeting a deviation threshold criterion and the subaspect values being of one type; and

combining and averaging the subaspect values of said subset in order to determine the corrected subaspect values for each type of corrected subaspect values.

22. (New) The method as recited in claim 16 wherein the step of determining a first corrected intensity value for said pixel by using the measured intensity values of a set of pixels out of said configuration of pixels, includes a low-pass filter calculation.

23. (New) An electronic system implementing in hardware the method of claim 16.

24. (New) The system as recited in claim 23 being a silicon chip, said chip integrating a configuration of pixels of an image sensor and a colour filter interpolation technique, each pixel having a colour filter for filtering substantially one colour type, said chip comprising a finite-impulse-response filter having a delay line for storing of the pixels in the immediate neighbourhood of each pixel of said configuration the measured intensity values corresponding to the colour filters of said pixels.

25. (New) A method for determining at least two corrected color values for a color of a selected pixel, the selected pixel being one pixel of a configuration of pixels, the method comprising the steps of:

measuring at least one intensity value for each pixel of the configuration of pixels, wherein each pixel of said configuration of pixels has a color filter for filtering substantially one color type while measuring the intensity value, each measured intensity value corresponding to the color type of the corresponding pixel;

calculating a first corrected intensity value for each pixel of the configuration of pixels by combining the measured intensity values of a corresponding first set of pixels out of the configuration of pixels;

calculating a chrominance value for each pixel of the configuration of pixels by separating the measured intensity value of each pixel of the configuration of pixels into the first corrected intensity value for the pixel and the chrominance value for the pixel;

determining a second corrected intensity value for the selected pixel by combining the first corrected intensity value of the selected pixel with a corrected chrominance value for the selected pixel; and thereafter

Appl. No. : 09/454,766
Filed : December 3, 1999

determining a first type of corrected chrominance value for the selected pixel by combining the chrominance values of a second set of pixels out of the configuration of pixels and determining a second type of corrected chrominance value for the selected pixel by combining the chrominance values of a third set of pixels out of the configuration of pixels.